

## CLAIMS

What is claimed is:

1. A frequency division type protection device for a portable information processing system to provide a necessary voltage for the portable information processing system to function normally using a frequency division means when an abnormal voltage activity occurs to the portable information processing system, thus protecting the information inside the portable information processing system, the frequency division type protection device being comprised of:

a control unit, which is installed inside the portable information processing system to control the work status of the portable information processing system;

a piezoelectric unit, which is connected with the control unit to produce a voltage for the portable information processing system to function normally;

a frequency division unit, which is connected with the control unit to detect the voltage of the portable information processing system and to produce a frequency division voltage for the control unit to function correctly when an abnormal voltage activity is detected; and

a display unit, which is connected with the piezoelectric unit to display the current status of the portable information processing system.

2. The portable information processing system of claim 1 further comprising:

a test circuit, which has a first input coupling to a test voltage and a second input coupling to a reference voltage to compare the test voltage and the reference voltage, and produces a switch voltage when there is an abnormal voltage activity;

a frequency division circuit, which is connected with a voltage input to divide the frequency of a normal voltage when producing the switch voltage and, afterwards, to produce a frequency division voltage; and

5 a switch circuit, which has a first input connecting to the voltage input and the frequency division circuit and a second input connecting to the test circuit to receive and transmit the normal voltage to the control unit, and transmits the frequency division circuit to the control unit after receiving the switch voltage.

3. The portable information processing system of claim 2, wherein the test circuit is a difference amplifier LM358.

10 4. The portable information processing system of claim 2, wherein the switch circuit comprises:

15 a first switch device, which has a first input connecting to the voltage input, a second input connecting to the test circuit, and the inputs connecting to the control unit to transmit the normal voltage to the control unit, and stop transmitting the normal voltage when receiving the switch voltage; and

a second switch device, which has a first input connecting to the frequency division circuit, a second input connecting to the test circuit, and the inputs connecting to the control unit to transmit the frequency division voltage to the control unit when receiving the switch voltage.

20 5. The portable information processing system of claim 4, wherein the first switch device is an MOS (Metal Oxide Semiconductor).

6. The portable information processing system of claim 4, wherein the second switch device is an MOS (Metal Oxide Semiconductor).

7. The portable information processing system of claim 2, wherein the frequency

division circuit is a composed of a plurality of single power supply comparators LM393.

8. The portable information processing system of claim 1, wherein the display unit is a CCFL (Cold Cathode Florescent Lamp).

9. The portable information processing system of claim 1, wherein the control unit is a  
5 control IC (Integrated Circuit).

10. The portable information processing system of claim 1, wherein the piezoelectric unit is a piezoelectric transformer.

11. The portable information processing system of claim 1, wherein the portable information processing system is a laptop computer.

12. The portable information processing system of claim 1, wherein the portable information processing system is a laptop computer.